

FogHealth: Leveraging Fledge for Real-Time Urban Health Data Managements

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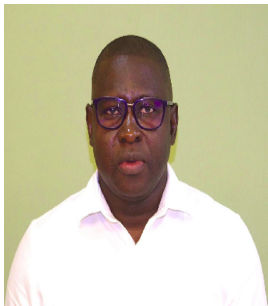
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Abstract—This study explores the use of the Fledge platform, an open-source solution based on Fog Computing, to improve real-time health data management in the context of urban home care. Faced with the growing challenges of urbanization and the increase in chronic diseases, our approach aims to optimize the collection, processing, and securing of health data. The proposed architecture combines Fog and Cloud Computing, allowing for data pre-processing at the source and advanced analysis in the cloud. The results demonstrate Fledge’s exceptional performance in terms of reduced latency, data security, and integration with existing systems. The study involved setting up a test environment simulating a mobile health laboratory, using real sensors to collect physiological data. Although promising, the study has limitations in terms of sample size and experiment duration. Future research should focus on integrating advanced AI algorithms and expanding Fledge’s interoperability, paving the way for more efficient and patient-centered urban health systems.

Index Terms—Fog Computing, Internet of Things, Fledge, Remote health monitoring, Real-time data management, Hypertension



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